

CLAIMS

- 1 1. A method of producing an aqueous paint composition, comprising:
2 placing a first premixed aqueous composition in a receiving reservoir, the first
3 aqueous composition selected from a group of premixed aqueous compositions consisting
4 of a pigment composition, a dispersant thickening agent, a high resin content binder, and
5 a low resin content binder; and
6 placing a second premixed aqueous composition in the receiving reservoir, the
7 second aqueous composition selected from the group of premixed aqueous compositions,
8 the second aqueous composition being a different one of the group of premixed aqueous
9 compositions than the first aqueous composition.
- 1 2. The method of claim 1, further comprising the step of mixing the aqueous paint
2 composition.
- 1 3. The method of claim 2, further comprising the step of selling the aqueous paint
2 composition to a consumer.
- 1 4. The method of claim 3, wherein the steps of placing the first premixed aqueous
2 composition in the receiving reservoir, placing the second premixed aqueous composition
3 in the receiving reservoir, mixing the aqueous paint composition, and selling the aqueous
4 paint composition to a consumer are all performed in the same location.

- 1 5. The method of claim 1, wherein the first premixed aqueous paint composition is
2 the pigment composition.

1 6. The method of claim 5, wherein the pigment composition comprises titanium
2 dioxide.

1 7. The method of claim 6, wherein the pigment composition comprises titanium
2 dioxide in the range of 40 to 50 percent, the percentage being based on weight of the
3 pigment composition.

1 8. The method of claim 7, wherein the pigment composition further comprises water
2 of about 25 percent, a mixture of clay and silica of about 15 percent, a viscosity
3 controlling agent of about 10 percent, and a combination of dispersant and thickener in an
4 amount of less than 5 percent, said percentages being based on weight of the pigment
5 composition.

1 9. The method of claim 5, wherein the second premixed aqueous paint composition
2 is the dispersant thickening agent.

1 10. The method of claim 9, wherein the dispersant thickening agent comprises water
2 in an amount of about 93 percent, a phosphate-based dispersant in an amount of less than
3 1 percent, a cellulosic thickener in an amount of about 1 percent, and a coalescent in an
4 amount of 4 to 5 percent.

1 11. The method of claim 5, wherein the second premixed aqueous paint composition
2 is the high resin content binder.

1 12. The method of claim 11, wherein the high resin content binder comprises resin in
2 an amount of about 80 percent.

1 13. The method of claim 12, wherein the high resin content binder further comprises
2 water at about 15 percent and a coalescent at about 2 percent.

1 14. The method of claim 5, wherein the second premixed aqueous paint composition
2 is the low resin content binder.

1 15. The method of claim 14, wherein the low resin content binder comprises about 50
2 percent resin.

16. The method of claim 15, wherein the low resin content binder further comprises
about 28 percent water, about 7 percent flattening agent, about 11 percent limestone, and
about 3.5 percent calcined clay.

1 17. A method of producing an aqueous paint composition, comprising:
 2 mixing a first aqueous composition, the first aqueous composition selected from a
 3 group of aqueous compositions consisting of a pigment composition, a dispersant
 4 thickening agent, a high resin content binder, and a low resin content binder;
 5 mixing a second aqueous composition, the second aqueous composition selected
 6 from the group of aqueous compositions, the second aqueous composition being a
 7 different one of the group of premixed aqueous compositions than the first aqueous
 8 composition;
 9 storing the first aqueous composition in a first supply reservoir;
 10 storing the second aqueous composition in a second supply reservoir;
 11 supplying the first aqueous composition from the first supply reservoir to a
 12 receiving reservoir; and
 13 supplying the second aqueous composition from the second supply reservoir to
 14 the receiving reservoir.

1 18. The method of claim 17, wherein the step of storing the first aqueous composition
 2 comprises storing the first aqueous composition for at least one day, and wherein the step
 3 of storing the second aqueous composition comprises storing the second aqueous
 4 composition for at least one day.

1 19. The method of claim 17, wherein the step of storing the first aqueous composition
 2 comprises storing the first aqueous composition for at least one week, and wherein the
 3 step of storing the second aqueous composition comprises storing the second aqueous
 4 composition for at least one week.

1 20. The method of claim 17, further comprising the steps of:

2 mixing a third aqueous composition, the third aqueous composition selected from
3 the group of aqueous compositions, the third aqueous composition being a different one
4 of the group of premixed aqueous compositions than the first aqueous composition or the
5 second aqueous composition;

6 mixing a fourth aqueous composition, the fourth aqueous composition selected
7 from the group of aqueous compositions, the fourth aqueous composition being a
8 different one of the group of premixed aqueous compositions than the first aqueous
9 composition, the second aqueous composition, or the third aqueous composition;

10 storing the third aqueous composition in a third supply reservoir; and

11 storing the fourth aqueous composition in a fourth supply reservoir.

1 21. The method of claim 20, wherein the first premixed aqueous paint composition is
2 the pigment composition.

1 22. The method of claim 21, wherein the second premixed aqueous paint composition
2 is the dispersant thickening agent.

1 23. The method of claim 22, further comprising the step of supplying the third
2 aqueous composition from the third supply reservoir to the receiving reservoir.

1 24. The method of claim 23, further comprising the step of supplying the fourth
2 aqueous composition from the fourth supply reservoir to the receiving reservoir.

1 25. The method of claim 24, wherein the pigment composition comprises titanium
2 dioxide in the range of 40 to 50 percent, water of about 25 percent, a mixture of clay and
3 silica of about 15 percent, a viscosity controlling agent of about 10 percent, and a

4 combination of dispersant and thickener in an amount of less than 5 percent, said
5 percentages being based on weight of the pigment composition.

1 26. The method of claim 25, wherein the dispersant thickening agent comprises water
2 in an amount of about 93 percent, a phosphate-based dispersant in an amount of less than
3 1 percent, a cellulosic thickener in an amount of about 1 percent, and a coalescent in an
4 amount of 4 to 5 percent.

1 27. The method of claim 26, wherein the high resin content binder comprises resin in
2 an amount of about 80 percent, water at about 15 percent and a coalescent at about 2
3 percent.

1 28. The method of claim 27, wherein the low resin content binder comprises about 50
2 percent resin, about 28 percent water, about 7 percent flattening agent, about 11 percent
3 limestone, and about 3.5 percent calcined clay.

1 29. The method of claim 17, further comprising the step of mixing the aqueous paint
2 composition.

1 30. The method of claim 29, further comprising the step of selling the aqueous paint
2 composition to a consumer.

1 31. The method of claim 30, wherein the steps of storing the first aqueous
2 composition, storing the second aqueous composition, supplying the first aqueous
3 composition, supplying the second aqueous composition, mixing the aqueous paint
4 composition, and selling the aqueous paint composition to a consumer are all performed
5 in the same location.

32. An apparatus comprising:

- a first supply reservoir containing a first premixed composition selected from a group of compositions consisting of a pigment composition, a dispersant thickening agent, a high resin content binder, and a low resin content binder;
- a second supply reservoir containing a second premixed composition selected from the group of compositions, wherein the second premixed composition is a different one of the group of compositions than the first premixed composition;
- a first valve fluidly connected to the first supply reservoir;
- a second valve fluidly connected to the second supply reservoir;
- an actuator system connected the first valve and the second valve;
- a receiving reservoir fluidly connected to the first valve and the second valve;
- a measuring system that measures a first flow amount of the first premixed composition supplied from the first supply reservoir to the receiving reservoir and that measures a second flow amount of the second premixed composition supplied from the second supply reservoir to the receiving reservoir; and
- a control system connected to the measuring system;

wherein the measuring system emits a first amount signal that represents the first flow amount and wherein the measuring system emits a second amount signal that represents the second flow amount, the control system receiving the first amount signal and the second amount signal;

wherein the control system emits a first close signal to the actuator system when the first amount signal indicates that the first flow amount equals a first predetermined amount, thereby prompting the actuator system to close the first valve; and

wherein the control system emits a second close signal to the actuator system when the second amount signal indicates that the second flow amount equals a second predetermined amount, thereby prompting the actuator system to close the second valve.

1 33. The apparatus of claim 32, wherein the actuator system comprises a first actuator
2 connected to the first valve and a second actuator connected to the second valve.

1 34. The apparatus of claim 32, further comprising:
2 a third supply reservoir containing a third premixed composition selected from the
3 group of compositions, wherein the third premixed composition is a different one of the
4 group of compositions than the first premixed composition or the second premixed
5 composition;
6 a third valve fluidly connected to the third supply reservoir and the receiving
7 reservoir, the third valve being connected to the actuator system;
8 wherein the measuring system measures a third flow amount of the third premixed
9 composition supplied from the third supply reservoir to the receiving reservoir;
10 wherein the measuring system emits a third amount signal that represents the third
11 flow amount;
12 wherein the control system receives the third amount signal; and
13 wherein the control system emits a third close signal to the actuator system when
14 the third amount signal indicates that the third flow amount equals a third predetermined
15 amount, thereby prompting the actuator system to close the third valve.

1 35. The apparatus of claim 34, further comprising:
2 a fourth supply reservoir containing a fourth premixed composition selected from
3 the group of compositions, wherein the fourth premixed composition is a different one of
4 the group of compositions than the first premixed composition, the second premixed
5 composition, or the third premixed composition;
6 a fourth valve fluidly connected to the fourth supply reservoir and the receiving
7 reservoir, the fourth valve being connected to the actuator system;

8 wherein the measuring system measures a fourth flow amount of the fourth
9 premixed composition supplied from the fourth supply reservoir to the receiving
10 reservoir;
11 wherein the measuring system emits a fourth amount signal that represents the
12 fourth flow amount;
13 wherein the control system receives the fourth amount signal; and
14 wherein the control system emits a fourth close signal to the actuator system when
15 the fourth amount signal indicates that the fourth flow amount equals a fourth
16 predetermined amount, thereby prompting the actuator system to close the fourth valve.

1 36. The apparatus of claim 32, further comprising:
2 a first pump fluidly connected to the first supply reservoir and the first valve; and
3 a second pump fluidly connected to the second supply reservoir and the second
4 valve.

1 37. The apparatus of claim 32, wherein the receiving reservoir is a paint bucket.

1 38. The apparatus of claim 32,
2 wherein the measuring system measures weight;
3 wherein the first flow amount is a weight amount; and
4 wherein the second flow amount is a weight amount.

1 39. The apparatus of claim 38, wherein the measuring system measures a weight of
2 the receiving reservoir.

1 40. The apparatus of claim 32, wherein the control system comprises:
2 a programmable logic control; and

3 a user interface connected to the programmable logic control.

1 41. The apparatus of claim 40, wherein the user interface prompts a user to input
2 desired paint characteristics and the programmable logic control uses the desired paint
3 characteristics to determine the first predetermined amount and the second predetermined
4 amount that will produce a paint with the desired paint characteristics.

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A method of producing an aqueous paint composition comprising the steps of:
storing a first premixed composition in a first supply reservoir, the first premixed
composition selected from a group of compositions consisting of a pigment composition,
a dispersant thickening agent, a high resin content binder, and a low resin content binder;
storing a second premixed composition in a second supply reservoir, the second
premixed composition selected from the group of compositions, wherein the second
premixed composition is a different one of the group of compositions than the first
premixed composition;
determining a first predetermined amount of the first premixed composition;
determining a second predetermined amount of the second premixed composition;
supplying the first premixed composition from the first supply reservoir to a
receiving reservoir;
supplying the second premixed composition from the second supply reservoir to
the receiving reservoir;
measuring a first flow amount of the first premixed composition supplied from the
first supply reservoir to the receiving reservoir;
measuring a second flow amount of the second premixed composition supplied
from the second supply reservoir to the receiving reservoir;
ceasing supply of the first premixed composition from the first supply reservoir to
the receiving reservoir when the first flow amount equals the first predetermined amount;
and
ceasing supply of the second premixed composition from the second supply
reservoir to the receiving reservoir when the second flow amount equals the second
predetermined amount.

1 43. The method of claim 42,
 2 wherein the step of ceasing supply of the first premixed composition comprises
 3 closing a first valve that is fluidly connected to the first supply reservoir and that is
 4 fluidly connected to the receiving reservoir; and
 5 wherein the step of ceasing supply of the second premixed composition comprises
 6 closing a second valve that is fluidly connected to the second supply reservoir and that is
 7 fluidly connected to the receiving reservoir.

1 44. The method of claim 42, further comprising the steps of:
 2 storing a third premixed composition in a third supply reservoir, the third
 3 premixed composition selected from the group of compositions, wherein the third
 4 premixed composition is a different one of the group of compositions than the first
 5 premixed composition or the second premixed composition;
 6 determining a third predetermined amount of the third premixed composition;
 7 supplying the third premixed composition from the third supply reservoir to the
 8 receiving reservoir;
 9 measuring a third flow amount of the third premixed composition supplied from
 10 the third supply reservoir to the receiving reservoir; and
 11 ceasing supply of the third premixed composition from the third supply reservoir
 12 to the receiving reservoir when the third flow amount equals the third predetermined
 13 amount.

1 45. The method of claim 44, further comprising the steps of:
 2 storing a fourth premixed composition in a fourth supply reservoir, the fourth
 3 premixed composition selected from the group of compositions, wherein the fourth
 4 premixed composition is a different one of the group of compositions than the first

5 premixed composition, the second premixed composition, or the third premixed
6 composition;
7 determining a fourth predetermined amount of the fourth premixed composition;
8 supplying the fourth premixed composition from the fourth supply reservoir to the
9 receiving reservoir;
10 measuring a fourth flow amount of the fourth premixed composition supplied
11 from the fourth supply reservoir to the receiving reservoir; and
12 ceasing supply of the fourth premixed composition from the fourth supply
13 reservoir to the receiving reservoir when the fourth flow amount equals the fourth
14 predetermined amount.

1 46. The method of claim 42,
2 wherein the step of supplying the first premixed composition comprises pumping
3 the first premixed composition; and
4 wherein the step of supplying the second premixed composition comprises
5 pumping the second premixed composition.

1 47. The method of claim 42, wherein the steps of supplying the first premixed
2 composition and ceasing supply of the first premixed composition are completed before
3 the steps of supplying the second premixed composition and ceasing supply of the second
4 premixed composition have begun.

1 48. The method of claim 47,
2 wherein the step of measuring the first flow amount comprises measuring a
3 weight of the receiving reservoir; and
4 wherein the step of measuring the second flow amount comprises measuring a
5 weight of the receiving reservoir.

1 49. The apparatus of claim 48,
2 wherein the step of measuring the first flow amount comprises recalibrating a
3 scale before measuring the weight of the receiving reservoir; and
4 wherein the step of measuring the second flow amount comprises recalibrating the
5 scale before measuring the weight of the receiving reservoir.

6 50. The apparatus of claim 42,
7 wherein the step of determining a first predetermined amount comprises
8 calculating the first predetermined amount using desired paint characteristics that have
9 been input into a user interface by a user;
10 wherein the step of determining a second predetermined amount comprises
11 calculating the second predetermined amount using the desired paint characteristics; and
12 wherein the first predetermined amount and the second predetermined amount are
13 calculated so that the method will produce a paint composition having the desired
14 characteristics.

1 51. The method of claim 50, wherein the desired characteristics comprise a desired
2 sheen, a desired color type, a desired quality, a desired quantity, and whether the paint
3 composition will be for interior or exterior use.

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1 52. A method of producing a desired paint composition, the method comprising the
2 steps of:
3 providing an apparatus for producing a paint composition;
4 prompting a user to input into the apparatus a selection of either interior or
5 exterior paint;
6 prompting a user to input into the apparatus a desired sheen;
7 prompting a user to input into the apparatus a desired color type; and
8 automatically producing the desired paint composition, the step of automatically
9 producing the desired paint composition being performed by the apparatus, the paint
10 composition having the desired sheen and the desired paint composition further being
11 well-suited for the desired color type and for either interior or exterior use as desired.

1 53. The method of claim 52, further comprising the step of prompting a user to input
2 into the apparatus a desired quality, wherein the paint composition has the desired
3 quality.

1 54. The method of claim 53, wherein the step of automatically producing the desired
2 paint composition comprises:
3 placing a first aqueous composition in a receiving reservoir, the first aqueous
4 composition selected from a group of premixed aqueous compositions consisting of a
5 pigment composition, a dispersant thickening agent, a high resin content binder, and a
6 low resin content binder; and
7 placing a second aqueous composition in the receiving reservoir, the second
8 aqueous composition selected from the group of premixed aqueous compositions, the
9 second aqueous composition being a different one of the group of premixed aqueous
10 compositions than the first aqueous composition.

1 55. A program product, tangibly embodying a program of machine-readable
 2 instructions executable by a controller of an apparatus, the program product comprising:
 3 a control program prompting a user to input into the apparatus a selection of paint
 4 that is well-suited for interior use or paint that is well-suited for exterior use, a desired
 5 sheen, a desired quality, and a desired color type, the control program further controlling
 6 the apparatus to produce the desired paint composition, the paint composition having the
 7 desired sheen, the desired quality, and the desired paint composition being well-suited for
 8 the desired color type and for either interior or exterior use as desired; and
 9 signal bearing media bearing the control program.

1 56. The program product of claim 55, wherein the signal bearing media comprises
 2 transmission media.

1 57. The program product of claim 55, wherein the signal bearing media comprises
 2 recordable media.

1 58. The program product of claim 55, wherein the control program prompts the user
 2 to select the desired sheen from a plurality of sheens, the plurality of sheens comprising
 3 flat, low sheen, egg shell, semi gloss, and high gloss if the user selects interior use, and
 4 the plurality of sheens comprising flat, low sheen, satin, semi gloss, and high gloss if the
 5 user selects exterior use.

1 59. The program product of claim 58, wherein the control program prompts the user
 2 to select the desired color type from a plurality of color types, the plurality of color types
 3 comprising white, pastel, tinting, deep tone, and neutral.

- 1 60. The program product of claim 59, wherein the control program prompts the user
2 to select the desired quality from a plurality of qualities, the plurality of qualities
3 comprising retail, professional, and economy.

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